

MAY 1968

NUMBER 2

HIT THE JACKPOT



WITH A NEW IDEA

A "TOUCHING" EXPERIENCE
(NPS SW 66-78)

At the Visitor Center in Craters of the Moon National Monument, a variety of geological specimens are displayed on a table. A sign invites visitors to handle the rocks and to compare their weights and textures.

The table shown here was designed and constructed by Chief Park Naturalist Arthur C. Hathaway and Laborer Floyd C. Standlee. They used oil-finished oak, aluminum legs, and a center cushion of carpeting.



The experience of touching the rocks gives visitors a better understanding of the phenomena of the area. When they are out in the lava area, visitors are less inclined to disturb the features-in-place, because they have already had the "touch and examine" experience.

REVISION SYSTEM FOR BULKY DOCUMENTS UNDER REVIEW
(NPS MW 66-39)

Vernithia D. Fitzgerald, Secretary, Midwest Regional Office has suggested a system for revisions to Interpretive Prospectuses, Exhibit Plans and Texts, and other bulky documents, such as Historic Structures Reports, which require extensive review for approval.

Noting the way in which revisions to manuals, handbooks, and the like are handled, Vernithia proposed an adaptation of that system. Revised pages would carry a notation at the bottom, giving such data as "Rev. by memo MRO, 4/1/67." All of the revised pages would be accompanied by an instruction sheet similar to the following.

Instruction Sheet Amendment #2
to Rocky Mountain National Park
Interpretive Prospectus

Remove old sheets numbered	Replace with new sheets numbered
14	14
15	15
16	16
19	19
Destroy 20	None
21	20
28	27
	Add 28

Renumber accordingly, starting with old page 22 through old page 27.

Remove old sheets numbered	Replace with new sheets numbered
31	31
32	32
34	34
43	43

A copy of Superintendent Hank's memorandum, subject, "Justification for combining the West Side Visitor Center with the West

Side Administration Building," dated April 6, 1964, is also being furnished you. We suggest that it be filed in front of the Prospectus, immediately following the Interpretive Statement.

ORGANIZER FOR HANDOUT FOLDERS
(NPS SE 66-126)

Handout material most frequently asked for at Manassas National Battlefield Park is now neatly organized and accessible right at the Visitor Information desk where the Ranger on duty can pick up while still talking to the visitor. Before Ranger Henry Hughlett designed the holders the material was all stacked together in a storage room.



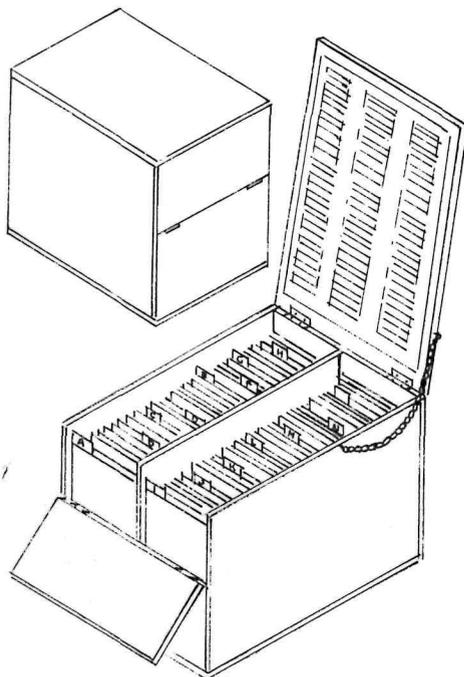
Made from scrap pieces of plywood, the holders have three recessed shelves on which the materials stand upright, bringing them into view for quick selection. The holders are hung with butt hinges so that they swing out for easy removal of the desired folders, and then swing back out of the way when not being used. The photo shows one holder swung out in the "in-use" position.

FINDING PARK FOLDERS FASTER
(NPS SE 66-71)

When a visitor asks about another park in your area is there a scramble among a haphazard pile of dog-eared folders somewhere on a cupboard shelf? After one of those hurried searches, which didn't turn up a folder on the park the visitor had inquired about, Historian Barry Mackintosh, Fort Caroline National Memorial, decided to put some system into the situation.

Barry designed and built the portable plywood file box, shown in the sketch, to be kept behind the information desk. The box is 16 3/4 inches long, 10 1/8 inches wide, and 11 inches high, divided to make two compartments 4 1/2 inches 10 1/4 inches, and it is made of 3/8 inch plywood.

FREE FOLDER FILE



Two inside compartments 4 1/2" x 10 1/4" to accommodate the contemporary 4" x 9 1/4" folders and alphabetical dividers (made from scrap cardboard). (Old 6" x 8 1/2" folders must be folded).

On the underside of the lid is an alphabetical list of all the areas of the Region. If folders are available for an area, this is noted; if a handbook or other material not kept in the box is available, this, too, is noted. At a glance it can be determined whether there is any material on the area inquired about and where it is if it is something that doesn't fit in the box. If it is a folder, it is only necessary to find the initial letter of the name of the area and pull out the folder.

Barry used scrap plywood; and the two pairs of hinges, clasp, and chain cost only about a dollar. He made the alphabetical dividers from scrap cardboard.

With well over 200 areas in their System, an orderly means of keeping the free brochures becomes a tremendous time saver, Barry says.

PORTABLE PROJECTION SCREEN
(NPS SE 66-163)

For those who present slide talks and motion pictures to a large audience, here is an idea for a large portable projection screen from Park Ranger Dale L. Smith of Russell Cave National Monument. This screen proves very satisfactory as opposed to the standard 5' x 5' projection screen which is often too small for viewing by large audiences.

Dale designed and built this screen from a 100" x 109" white muslin bed sheet with twenty 1/2-inch grommets and reinforcement patches placed around the perimeter. These grommets are hooked over screws placed on the framework. The wood framework, stained black, is made of lumber finished four sides.

Each 2" x 2" is hinged with a 6" strap hinge in the center making it possible for the screen, which when erect rises over 10', to fold to only 62". This added feature makes it easily stored or transported.

All pieces are held firmly in place by 8d. common nails that drop easily into pre-drilled holes on each leg of the framework which is secured to the base by a 20d. common nail that slides into place. All nail tips are ground down for safety in assembling and dismantling. The entire screen tilts forward slightly to eliminate keystone effect. The ends of each piece are numbered to simplify assembly.

One person can easily erect the screen within ten minutes with the use of a step ladder; two can accomplish the job by putting it together on the ground and then raising it into place on the base sections. Other than the low cost of \$15, the most apparent advantage of the screen is its large size in use and its compact size in storage. Dale considers the projected picture highly satisfactory and says that more people can see and derive appreciation from the enlarged picture.

SAFETY HAND HOLDS FOR SANITATION TRUCK
(NPS W 66-55)

Handles mounted on tail gates of sanitation trucks and on each side of the truck box would give a man something secure to hold on to.

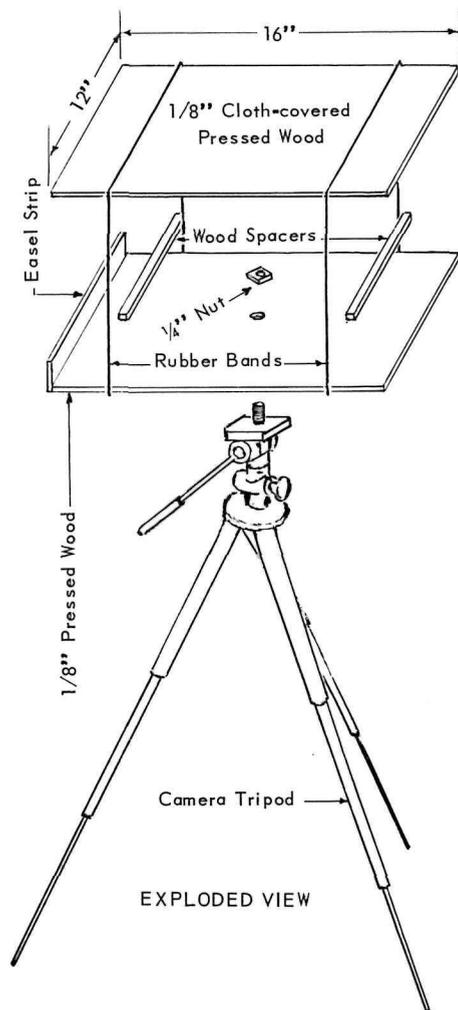
Jewel E. Greenway, Caretaker, Death Valley National Monument, used 3/4-inch pipe to make handles which are 3 inches high and 12 inches long, providing a good hand hold. In addition to the safety factor, the pipe mounted on the tail gates serve also as handles to remove the gates from the truck.

Jewel also suggests painting the standing platform at the rear of the truck with a safety walk, which would prevent a man from slipping, especially if a slick substance were spilled on it.

PORTABLE EASEL-TABLE
(NPS SE 66-122)

A small table often comes in handy during demonstrations or off-site appearances, but there is not always one readily available. Dale L. Smith, Park Ranger, Russell Cave National Monument, constructed one which he can take with him.

The basic item is a camera tripod (see sketch). Other materials required are: 2 pieces of 1/8" pressed board 12" x 16"; 1 square nut, 1/4"; 2 wood spacer strips; 1 wood strip (easel bottom); several rubber bands; and a piece of cloth to cover one piece of board.



EXPLODED VIEW

Drill a 5/16" hole in the center of one piece of the pressed board. Attach a wood strip to one end for use as an easel. Place the board on the tripod, just as you would a camera, and secure it with a regular 1/4" nut. The second piece of board (cloth-covered) is not necessary, but it creates a better looking surface for the table. The spacer strips provide clearance for the nut between the two pieces. Secure the two boards with several rubber bands.

The light weight, compact features, and ease of assembly and disassembly make this easel-table convenient to transport. It can also be used as a podium. By simply tilting the tripod head, it becomes a small easel for display of charts and posters.

ADDRESS MANILA ENVELOPES
FASTER
(NPS MW 66-87)

Large manila envelopes are difficult to handle in a typewriter. It takes a considerable amount of time, when large mailings are made, to put them into and take them out of the machine. If a typing error is made, erasing creates a problem, because it removes the nap of the paper.

Marjorie G. Rylen, Clerk, Midwest Regional Office, NPS, tried size 1 1/8" x 3 1/2" pressure-sensitive labels and found that she could do the addressing job in half the time. The labels are GSA items, stock number, 7530-982-0066 and cost a fraction of a cent apiece (248 for 43¢). They are easy to handle, typing is fast, and they attach quickly and permanently to the envelopes.

OLD PHOTOGRAPHS HELP VISITORS
AT RUIN SITES
(NPS MW 67-106)

Ranger Eugene K. Galloway, Ft. Laramie National Historic Site, noticed that an old photograph of a building shown to a visitor at the site of a ruin contributed markedly to his comprehension of the structure.

Photographs and a brief text about each were mounted on easels at several ruin sites at the Fort, with effective results. Gene says these outdoor mounts should show the buildings at some time during the active period, and preferably with some human activity taking place (sketches, or reproductions of paintings could be used if buildings are pre-camera period).

Glass or salvage plexiglas may be used for weather sealing. The viewing angle should be 45 degrees.

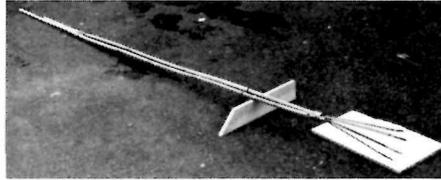
These photographic mounts would be relatively inexpensive (mounts can be made and installed by the Maintenance Department, and exhibits themselves can be made at the Museum), but their interpretive contribution will pay big dividends in visitor appreciation and understanding.

"FLEXIBLE HAND"
(NPS W 67-135)

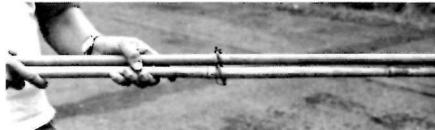
The removal of paper, cans, and other types of trash is a dangerous job along the several crater rims within Hawaii Volcanoes National Park. Many people view the craters from behind the guard rails and throw trash over the rail. In the past a man on a safety rope had to remove such trash by hand.

To collect much of this material while standing in a safe position behind the guard rail, a twin pole unit of bamboo was designed by Maintenance man William R. Halm. One pole end was split to form eight fingers, each 14" long. Heat was then applied to bend the fingers outward from the

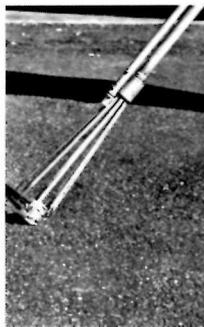
base and inward at the ends, thus forming a unit which can grasp almost anything quite firmly. A second pole was attached to the first with wire loops. A piece of pipe attached to the second pole acts as a closing ring on the fingers when it is pushed forward. A wire stop on the handles keeps the closing ring from being pushed off the fingers.



Fingers in a relaxed position.



A wire loop from one pole stops against a wire keeper on the second pole so that the finger closer can't come all the way off the fingers.



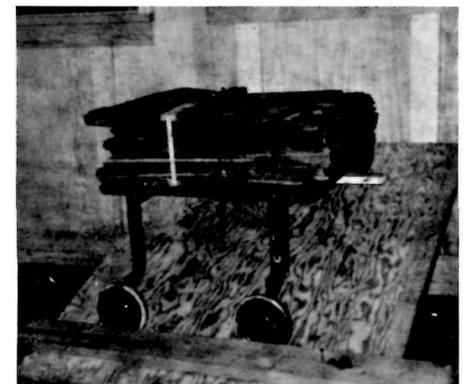
With this unit a man can stand behind the guard rail, reach over and down to a piece of trash with the pole, place the fingers over the trash, slide the second pole downward to close the fingers, and easily and safely remove the trash.

Two modifications are easily made, if desired. An extension can be made for the poles by fastening a second length to each pole, using a 12 to 18 inch length of pipe or tubing which will slip snugly over the poles. Small pins will keep the poles in the sleeves.

An all metal unit can be made, using aluminum poles and fingers made from the spring-metal tines of a metal lawn rake.

CART FOR SHINGLING ROOFS
(NPS M 67-143)

Irving M. Chase, Carpenter, Yellowstone National Park, has found a way to reduce by one third the time it takes to shingle a roof. Irving designed and build a small cart, 21" x 24" in size with two 6" fixed wheels on one side and two 6" adjustable wheels on the other. The adjustable wheels (all four wheels are bicycle stabilizers) enable the shingler to keep the cart level while working on sloping roofs. Wooden strips bolted to each end of the cart serve as handles.

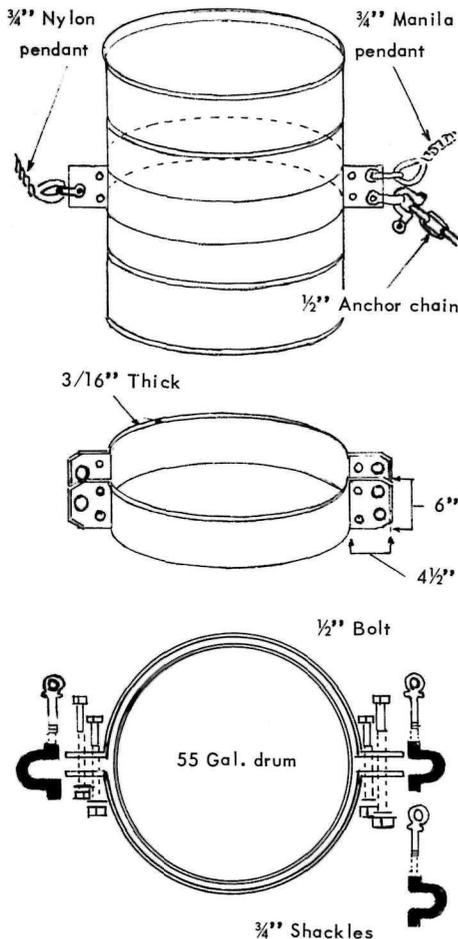


A full bundle of shingles can be placed on the cart and easily moved back and forth across the roof. The cart keeps all the shingles in one place, thus eliminating accidents caused by loose shingles on the roof. It is important to note, however, that a wooden cleat should be placed in front of the adjustable wheels to prevent sliding of the cart.

INEXPENSIVE MOORING BUOY
(NPS W 66-127)

Upon learning that a commercial buoy of sufficient size to moor their patrol boat would cost more than \$200, Chief Ranger Robert White and Park Ranger James Martin of Cabrillo & Channel Islands National Monuments searched for a less expensive solution. When they came up with it, the cost was just \$16.

Bob and Jim designed a collar to fit around a 55 gallon drum (see sketch) and had it made and galvanized in a local welding shop (that was the \$16 outlay). Made of 3/16" black iron, the collar is strong, light, and simple. It can be assembled by one man, and is easily transported in a small boat. The drum buoy can easily be changed if it becomes corroded or otherwise damaged. It is desirable to make the buoy unsinkable even if punctured, it can be filled with self-expanding polyurethane for about \$25.



Note the two pendants leading from the collar. Since the patrol boat is moored in an exposed ocean cove, the security of a second, longer pendant, is felt to be well worth the small additional cost. In one instance the second pendant saved the boat when a stainless steel pendant parted. For their 25' launch, Jim and Bob use a 720 lb. railroad car wheel, 3/4" and 1/2" chain attached to the buoy, and 3/4" nylon pendants.

SPREADER BOXES FOR DUMP TRUCKS
(NPS W 66-132)

Application of cinders over oil has been speeded up, and substantial saving of time, materials, and costs has resulted from use of the spreader boxes shown in the photographs and sketch.

Foreman Lyman N. Patrick, Lava Beds National Monument, designed the box, which can be constructed entirely from scrap materials. The wooden trough has strap iron hooks to hold it in place below the bottom of the tail gate. The spreader chains on the dump truck fasten to the top of the spreader box to hold it square with the dump bed. The spreader box is V-shaped in cross section, with the bottom of the V left open about 3 1/2 inches. A length of 4-inch pipe controlled by a lever mechanism plugs this opening, or opens it to varying widths to permit exact control of distribution rate of the cinders.



A platform (see photographs) provides a place for the operator to stand.

Before Lyman designed the spreader, cinders were spread by men on trucks, using shovels. The result was an uneven application and excessive use of material.

Metal spreader boxes are, of course, available commercially, but Lyman has found them to have the following disadvantages: several men and a hoist are needed to install them; if damaged, repairs are expensive. The wooden boxes can be installed by one or at the most two men, without hoists, and in case they are damaged, repairs can be made economically. Cost of the spreader shown here (from surplus materials), about \$50.

ALL WELDED ALUMINUM BOATS
SAVE MONEY
(NPS SE 66-98)

At Mammoth Cave National Park, narrow cave passages limit the size of assembled boats or boat sections which can be moved to Echo River. Prefabricated aluminum boats, which have been used, were hand carried to Echo River and riveted together there. The riveted sections leaked constantly, required continual maintenance, and caused slick decks. Park Ranger Bert L. Speed tried out one of the new all welded aluminum boats with success.

These boats consist of two halves which are joined, side-by-side. Each half has a bulkhead along the keel, which results in a watertight section. The sections are small enough to be hand carried into the cave.

Bert finds that the boats have these advantages:

The all welded construction eliminates leaks and provides watertight compartments along both sides of the boat, making it unsinkable.

The new boats last longer, about 20 years as compared with an average of 3 years for the old boats. Three of the new type boats have been bought for Mammoth at a cost of \$6,825 or \$341 on an annual basis. Cost of the old boats in a 20-year period would be \$35,000 or \$1,750 on an annual basis. That's a savings of \$1,409 in annual cost of the boats.

Savings in other costs incurred by the old boats (such as: transporting in and out of 15 replacement boats and worn out boats; removal of old type boats from the river and storage for the winter (not required for new boats); and maintenance costs such as, tightening rivets, applying epoxy resin to joints, bailing out and mopping, cleaning supplies). This amounted to about \$3,551.

Costs incurred by the new boats amount to about \$246 (anchorage of boats for the winter; construction of anchorage cables; and cost of spring clean-out of boats.

The total annual savings amounts to about \$3,305.

SPEED LIMITED SIGNS FOR
"MEN WORKING" AREAS
(NPS SE 66-93)

More specific instruction for motorists passing an area where men are working has been suggested by Ranger Richard W. Marks, Blue Ridge Parkway, Rocky Knob District.

Dick would have the sign which marks the beginning of the "Men Working" area indicate the speed limit, 25 miles per hour, and as the motorist leaves the area another sign should inform him that he may resume posted speed.

Signs should be two-faced, with the wording, MEN WORKING — SPEED LIMIT 25 MILES AN HOUR on one side, and RESUME SPEED on the other side.

FORKLIFT ATTACHMENT FOR FRONT END LOADER (NPS W 66-64)

When there were 100 pre-fab concrete tables to assemble at Joshua Tree National Monument, Maintenance man James B. Johnson thought they needed some mechanical help for the heavy job.

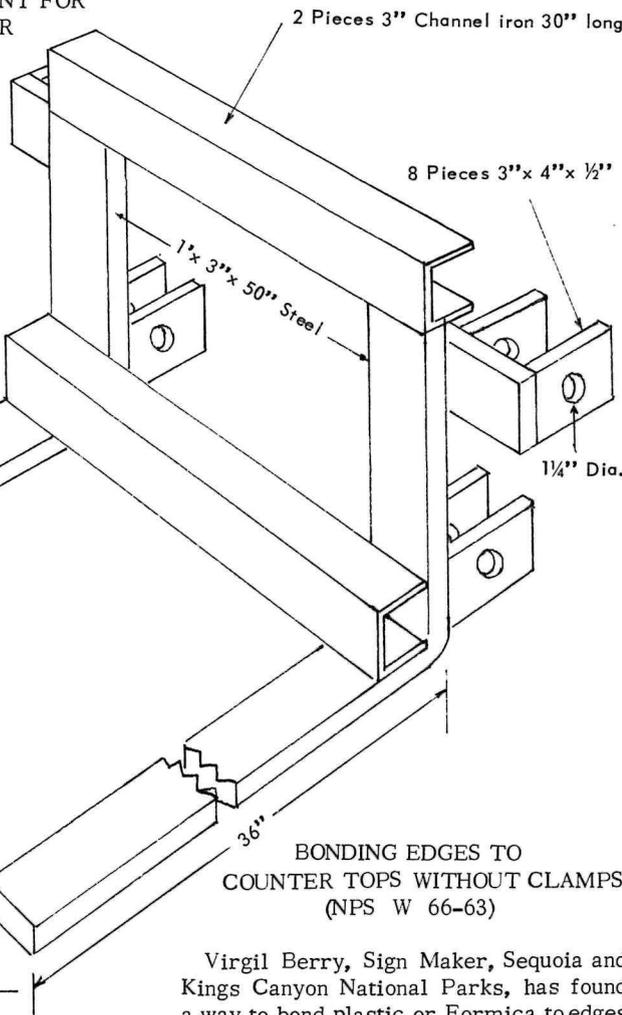
For \$36.80 in material and labor, Jim designed and constructed the forklift (shown in the sketch)

for a front end loader. It can be interchanged with the bucket in about 30 minutes.

Heavy concrete table tops, end sections, and seats were handled and assembled by two men more safely than by hand, using four men. Table assembly time was cut by about 30 percent.

When an editor corrected Winston Churchill's grammar in a manuscript by telling him not to end a sentence with a preposition, Churchill replied: "That is one kind of criticism I will not up with put."

I live a happy life because I never met a man I didn't like. —Will Rogers



REDUCING BREAKAGE OF BARRIER CHAINS (NPS SE 66-82)

In Shenandoah National Park, fire roads are barred to the general public by a chain stretched from a post on one side of the road to a post on the other side and secured with a padlock. When authorized personnel use these roads, the padlock is opened, one end of the chain is allowed to fall to the ground, and the vehicle is driven over the chain. Strain put on the chain by dual wheeled trucks driving over them causes frequent breakage at or near the point where the chain is fastened to the post.



To reduce this breakage, Foreman Elbert I. Cabbage fastened one end of a screen door spring to the end of the chain which hangs from the post when the other end is lowered, stretches the spring along the chain, and then fastens the other end of it to the chain. Tension on the spring is such that when the chain is lowered the spring contracts. This puts enough slack in the chain links along the length of the spring to absorb the strain caused by dual truck wheels.

Virgil Berry, Sign Maker, Sequoia and Kings Canyon National Parks, has found a way to bond plastic or Formica to edges of counter tops without using clamps.

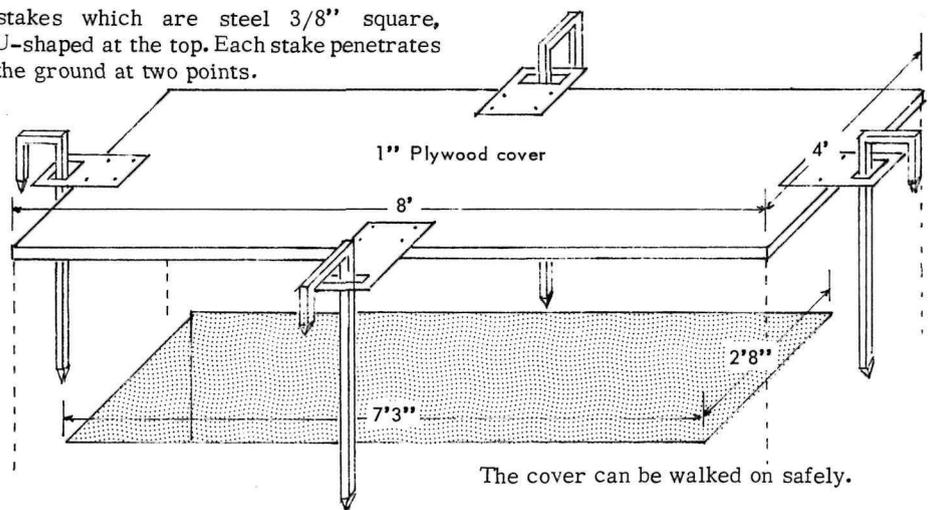
One man can do the job, Virgil says, using caseine glue and masking tape. Cut the plastic or Formica to the desired width. Apply glue with a small brush to the edges to which the plastic or Formica is to be bonded. Put the plastic or Formica in place and tape it about every inch and a half. The glue will hold well to edges of plywood, solid wood, or other material used for counter tops.

TEMPORARY GRAVE COVERING (NPS SE 66-88)

At Andrew Johnson National Historic Site, where twenty-three burials took place in a year and forty-seven thousand people visited the Cemetery in that year, a safety hazard existed. Since it takes at least two days to dig a grave, there is danger to visitors as long as the opening exists.

Caretakers Warren H. Gillespie and Glen F. Mooneyhan devised a cover which can be used for other temporary ground openings as well as for newly dug graves. (See sketch) The cover is made of 1" Marine Plywood 4' x 8' and covers an opening 2' 8" x 7' 3". Metal handles attached to the plywood cover receive the

stakes which are steel 3/8" square, U-shaped at the top. Each stake penetrates the ground at two points.



The cover can be walked on safely.

**SECURING PLASTIC BAGS
IN GARBAGE CANS
(NPS SE 66-53)**

Plastic bags being used as liners for garbage cans are a boon to workers as well as being time and money savers. However, much of the saving can be lost if the top of the bag is folded back over the edge of the can to hang loose on the outside (see photograph). Dogs and other animals soon learn to tug on the loose end and pull the entire bag and contents out of the can.

Foreman Robert M. Breazeale, Natchez Trace Parkway, solved the problem with spring steel bands, such as are used in banding cotton bales or cartons. Bob cut a piece of band steel approximately 3/4" wide and 1/32" thick and clamped it to form a circle slightly larger than the inside of the garbage can at the top. He placed a plastic bag in the can and then put the steel circle in place near the top (see photograph) to hold the bag open and secure against the sides. The loose end of the bag was then folded inside over the steel band.



This method of fastening the bags in the cans is neater and decreases the likelihood that the cans will be pulled over the contents spilled.

**EMERGENCY BLINKERS ON DIVISION
OF INTERPRETATION VEHICLES
(NPS SE 66-117)**

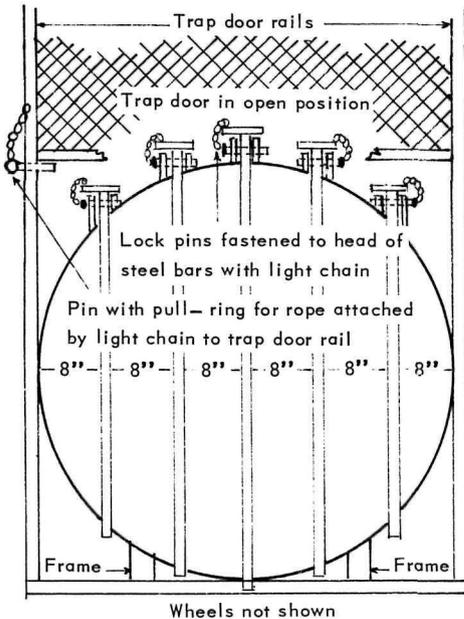
Park Historian Bernard L. Muehlbauer, Colonial National Historic Park, points out the need for vehicles assigned to the Division of Interpretation to be equipped with emergency blinkers (just as maintenance and ranger vehicles are). There are frequent occasions that require Interpretation personnel to stop along roadways: answering visitor's question, taking photographs, helping disabled vehicles, checking signs and other interpretive devices, putting up and taking down flags and checking infractions of park rules, to mention a few. Blinkers would warn oncoming vehicles and greatly lessen the chances of collision.

Blinkers are universally recommended by safety organizations, and they are inexpensive (less than \$3 each). Bernie suggests further that all vehicles purchased by the Service in the future be equipped with them.

**TRULOCK BEAR TRAP
(NPS MW 65-46)**

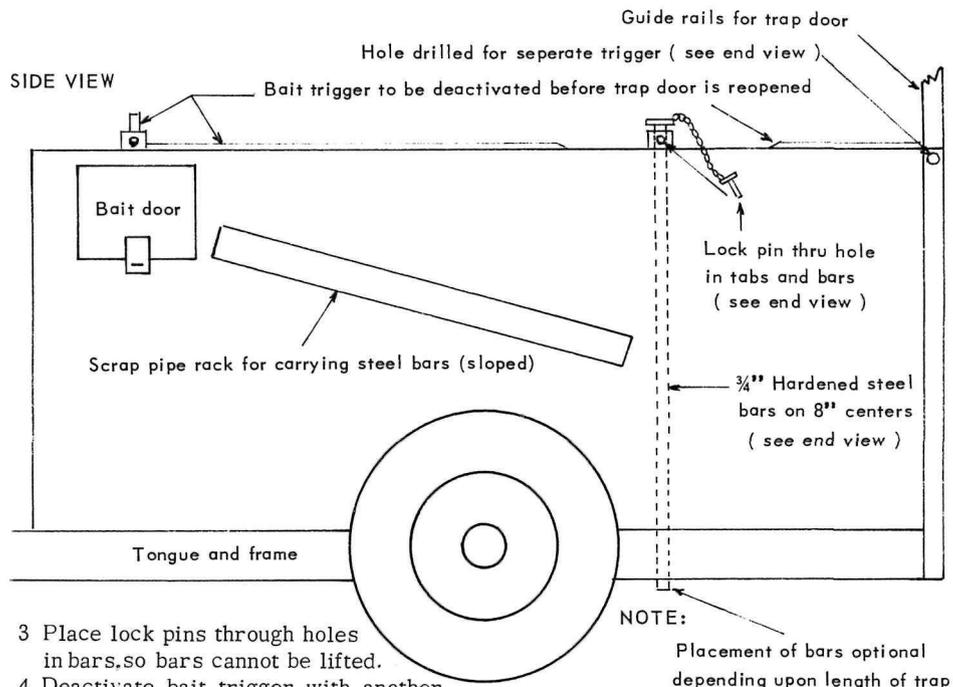
To eliminate the time-consuming and possibly harmful handling of bear cubs and yearlings, Park Ranger Elmer E. Trulock at Yellowstone has suggested the modification of existing bear traps.

END VIEW



The trap, as drawn, would be used in the following fashion:

- 1 Conventional trappings of the sow.
- 2 Bait or prod the sow forward in the trap, remove steel bars from rack and drop through holes in trap.



- 3 Place lock pins through holes in bars, so bars cannot be lifted.
- 4 Deactivate bait trigger with another lock pin, so that trap door cannot be tripped by sow's movements.
- 5 Reopen trap door, locking in position with short pin to which a line is attached. (This line would probably be unnecessary since pin could be pulled by hand when the cub or cubs have passed through the bars to the sow.)
- 6 Once cubs have joined the sow, close trap door — by either method mentioned.
- 7 Pull steel bars from trap and replace in rack. This will allow the animals more freedom and allow conventional release.

NOTE:
Placement of bars optional depending upon length of trap

Very few dimensions or measurements have been given for the suggested trap modifications because of the practicality of using scrap materials on hand. Although it has been suggested that the steel bars should be 3/4" in diameter, the bars could be larger or smaller. The spacing of the bars could also be varied, and in fact, a closer spacing of the bars would make it possible to leave out some of the bars if a particularly large cub were being handled or to add more bars if the cub were smaller.

CUTTING MOWING COSTS
(NPS SE 66-56)

Since steep slopes cannot be mowed with conventional mechanical mowers and the job must be done by hand, the costs are high. Albert H. McDill, Jr., Regional Chief, Branch of Area Services, NPS Southeast Regional Office, recommended a try-out of an International model 606 tractor equipped with an Anderson Extension Mower which was described as capable of mowing steep roadside slopes and areas behind walls and guardrails.

Superintendent Hoskins at Shenandoah National Park was asked to experiment with the equipment, and his report showed significant savings of maintenance costs. Based on current wage rates and equipment rental schedules, \$214. a day, or \$143. per mile of mowing was saved. For a 35-mile section of roadway, that amounts to a saving of about \$5,000. a year if the slopes are mowed only once as they had been in the past. Use of the extension arm mower makes it possible to mow the steeper slopes along a 35-mile section needed three times a year, providing a much higher maintenance standard. Here are the comparative cost figures.

- Mowing one 35-mile district by hand was 460 Laborer mandays at \$14.64. amounting to \$6,734.
- Mowing one 35-mile district by new tractor was \$2,155.
- Mowing one 35-mile district 3 times by new tractor was:

Rental & amortization of equipment	
560 hours at \$2.00	\$1,120.
Operator	
560 hours at \$1.94	\$1,086.
Equipment standby cost	
9 months at \$36.00	\$ 324.
Labor	
210 mandays at \$14.64	\$3,074.
 Total	 \$5,604.
 Net savings per year, per mower	 \$1,130.

LASSO THAT OLEANDER!
(NPS SW 65-144)

At Lake Mead Recreation Area, Caretaker Guy H. Ritchey, has found a way to reduce the hazard of working around oleander plants on the campground, which after they are pruned, present sharp stub areas dangerous to eyes and body.

The limbs of this plant hang so low that it is almost impossible to clean out the irrigation ditches beneath them. To protect the worker and to make his job easier Guy suggests that you take some rope about 15 feet long, a fairly thick one which won't damage the plant. In one end of it form a small loop, large enough to allow the other end of the rope to pass through. Then take the coiled rope in your left hand, and with

your right hand hook the looped end of the rope on a branch about half way up the plant. Now, just walk around the plant holding the rope high and letting the coils fall free of your hand as you walk. When you reach the starting point, insert the end of the rope you are holding through the looped end and pull slowly. As the rope tightens on the plant it will lift the limbs upward and squeeze them together as shown in the photo. The ditch is now exposed and there is no longer the danger of getting a sharp leaf or limb jabbed into you. The ditch digging will be easier and faster, too.



No harm is done to the plant, and when the rope is loosened, the limbs fall back to their original position.

SAFER STORAGE FOR HAND TOOLS
(NPS W 66-80)

The hazard of having hand tools stored on overhead racks is obvious.

Before

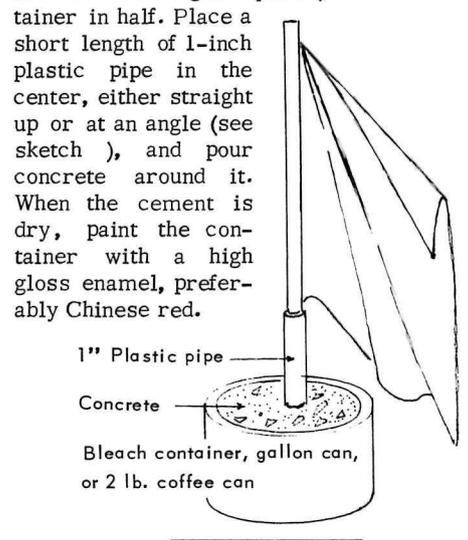


HOLDER FOR EMERGENCY RED FLAG
(NPS W 66-56)

A red flag is a convenient way to warn motorists of traffic hazards ahead—in some cases better than short-lived flares—and flags are less cumbersome, and require less storage space than signs.

James Riley, Seasonal Park Ranger, Death Valley National Monument, devised a simple holder which will hold the flags upright even in a strong wind.

Take a plastic bleach container, two-pound coffee can or a gallon can (size of the container depends on the amount of weight required). Cut the container in half.



Place a short length of 1-inch plastic pipe in the center, either straight up or at an angle (see sketch), and pour concrete around it. When the cement is dry, paint the container with a high gloss enamel, preferably Chinese red.

This shows how Floyd C. Standlee, Laborer, Craters of the Moon National Monument, eliminated that potential danger to workers. The simple floor level rack is constructed of surplus water pipe

After



and steel mesh material. The mesh prevents accumulation of dirt in the bottom of the rack, and the rack itself stands far enough off the floor to allow easy sweeping beneath it. Tools are easily removed either by lifting straight upward or out through the bottom after clearing the rim of the mesh floor.

The rack uses a minimum of floor space; it is only 10 inches wide.

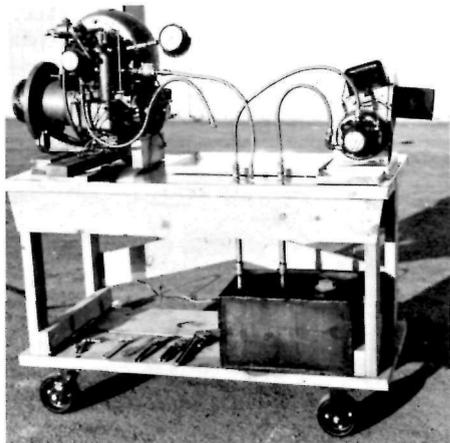
REPAIR STAND FOR OIL FIRED
FURNACE BURNERS
(NPS SW 65-125)

Charles E. Humberger, former superintendent of Petrified Forest National Park, designed a portable test and repair stand for oil fired furnace burners which proved to be a great convenience and time saver.

The unit is 24" wide, 54" long, and 34" high. It is equipped with 6" rubber wheels, two of which are swiveled and two straight rolling for good stability. The fuel oil tank is 14" x 18" x 10" and is equipped with copper lines.

An electrical convenience outlet is provided as well as space for tools, parts, etc. The casters permit moving of large burners from the central furnace room to the shop, or the unit may be taken directly to the residential furnace rooms for minor repair jobs, thus eliminating a trip to the shop.

The stand permits full testing of ignition, fuel pump pressure, flame, etc., since the burner may be fired, checked, and observed while on the stand. It provides several safety features. The fuel oil is in a closed container with adequate fuel lines and tight connections. The top of the stand is ironed off with sheet metal with a metal drip pan. The electrical outlet has leads for the fuel pump and ignition system. The burner units may be firmly blocked in place for safe handling during repair and test operations.



The stand is especially useful for preventive maintenance checks prior to the heating season, and much guesswork is thus eliminated. It is estimated that at least a fifty percent saving is realized on each burner unit that is worked on.

With a few modifications, this or a similar unit could also be used for the repair and testing of evaporative cooling units.

People who cannot find time for recreation are obliged sooner or later to find time for illness.

—John Wanamaker

The following is a partial listing of individuals who have received National Park Service suggestion awards to date. Following the listed awarded idea, you will find a page number if the idea was reported in this issue of PLOWBACK. Other listings cover awards for ideas of local application only. Awards information received after April 1, 1968 will be reported or listed in subsequent issues of PLOWBACK.

- Berry, Virgil (NPS W 66-63) Caseine glue and masking tape to bond plastic counter tops. See p. PL-13.
- Breazeale, Robert M. (NPS SE 66-53) Spring steel bands hold plastic bags in in garbage cans. See p. PL-14.
- Chase, Irving M. (NPS M 67-143) Cart used in shingling roofs. See p. PL-11.
- Collier, Loyola F. (NPS NCR 67-169) Add stone slab to Old Stone House.
- Cubbage, Elbert F. (NPS SE 66-82) Reduce breakage of chains used as gates. See p. PL-13.
- Cunningham, Charles C. (NPS W 66-32) Revise Form 10-771.
- Ducket, Virginia B. (NPS W 63-21) Form for mailing pay checks.
- Eitington, Julius E. (NPS WASO 67-62) Amplify leaflet used in Washington, D.C. area.
- Eitington, Julius E. (NPS WASO 68-8) Written notice for suggestions pending 90 days or more.
- Fitzgerald, Verinthia (NPS MW 66-39) Revision system for bulky document under review. See p. PL-9.
- Franklin, Avis E. (NPS W 68-57) Use soda to remove dirt on front end of vehicles.
- Galloway, Eugene K. (NPS MW 67-106) Old photographs help visitor at Ruin Sites. See p. PL-11.
- Gillespie, Warren H. (NPS SE 66-88) Temporary grave covering. See p. PL-13.
- Greenway, Jewel E. (NPS W 66-55) Safety hand holds for sanitation truck. See p. PL-10.
- Halm, William R. (NPS W 67-135) Flexible hand for picking up trash. See p. PL-11.
- Hathaway Arthur C. (NPS W 66-78) Visitor center specimen table. See p. PL-9.
- Hughlett, Henry (NPS SE 66-126) Handout folders installed under desk. See p. PL-9.
- Humberger, Charles E., (NPS SW 65-125) Portable test stand. See p. PL-16.
- Jensen, John E. (NPS W 67-109) Two badges for uniformed employees.
- Johnson, James B. (NPS W 66-64) Fork lift attachment to interchange with a bucket on front end loader. See p. PL-13.
- Kasperek, Robert B. (NPS SE 67-97) Auto fire extinguishing aids.
- Knapp, Jean A. (NPS NE 68-46) Book of abbreviations.
- Kuzio, Wilda H. (NPS WASO 68-37) Additional space for Forms 10-116.
- McDill, Albert H., Jr. (NPS SE 66-56) Use extension mower to reduce hand mowing. See p. PL-15.

- Mackintosh, Barry (NPS SE 66-71) Plywood box for filing NPS area brochures in each park. See p. PL-10.
- Marks, Richard W. (NPS SE 66-93) Speed limited signs for men working areas. See p. PL-12.
- Martin, James (NPS W 66-127) An inexpensive mooring buoy. See p. PL-12.
- Mentor, Gerald (NPS NE 68-31) Remove stanchions as a wise safety factor at the Grant Memorial.
- Mikell, Waring (NPS SE 66-61) Cellulose sponge placed under hood of vehicle.
- Mooneyhan, Glen F. (NPS SE 66-88) Temporary grave covering. See p. PL-13.
- Montoya, Patrick J. (NPS NCR 67-130) Replace maintenance employees badge with cloth name badge.
- Muehlbauer, Bernard L. (NPS SE 66-117) Emergency blinkers on Division of Interpretation vehicles. See p. PL-14.
- Panos, Della C. (NPS NCR 68-36) Disposable vinyl gloves.
- Pasalakis, Henry (NPS W 68-77) Insect repelling yellow light for phone booth.
- Patrick, Lyman N. (NPS W 67-132) Dump truck with spreader box. See p. PL-12.
- Peterson, Aronold M. (NPS M 68-30) Adopt electrical installation standards.
- Picco, Theodore L. (NPS W 68-75) Use "form" paragraphs to answer inquiries.
- Riley, James (NPS W 66-56) Holder for emergency red flag. See p. PL-15.
- Ritchey, Guy H., (NPS SW 65-144) Tie-back rope. See p. PL-15.
- Ryan, Helen S. (NPS NE 68-53) Collapsible wheel-chair.
- Rylen, Marjorie G. (NPS MW 66-87) Address envelope faster. See p. PL-11.
- Schmidt, Joseph R. (NPS NE 68-51) Hang heavy gauge asbestos gloves at high pressure steam service valves.
- Schmidt, Joseph R. (NPS NE 68-54) Extend present H.P. steam supply service.
- Smith, Dale L. (NPS SE 66-122) Tripod easel-table. See p. PL-10.
- Smith, Dale L. (NPS SE 66-163) Portable projection screen. See p. PL-10.
- Speed, Bert L. (NPS SE 66-98) All welded aluminum boats save money. See p. PL-12.
- Standlee, Floyd C. (NPS W 66-78) Visitor center specimen table. See p. PL-9.
- Standlee, Floyd C. (NPS W 66-80) Safer storage for hand tools. See p. PL-15.
- Tino, Sharon L. (NPS WASO 67-85) Install two clocks.
- Trulock, Elmer E. (NPS M 65-46) Modify bear traps. See p. PL-14.
- Watson, Charles E. (NPS WASO 64-26) Form designed to make "on-the-spot" decisions.
- White, Robert (NPS W 66-127) An inexpensive mooring buoy. See p. PL-12.
- White, Robert G. (NPS M 68-24) Boat inspection stickers indicate safety check.
- Yardic, George T. (NPS W 67-140) Zip codes on envelopes with payroll checks.
- Zinck, James R. (NPS NE 68-15) Attach transient key to "hotel" type key tag.